

# SSC-D7

## Operating Instructions

Before operating the unit, please read this manual thoroughly and retain it for future reference.



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## Owner's Record

The model and serial numbers are located on the bottom. Record the serial number in the space provided below. Refer to them whenever you call upon your Sony dealer regarding this product.

Model No. SSC-D7      Serial No. \_\_\_\_\_

### **WARNING**

**To prevent fire or shock hazard, do not expose the unit to rain or moisture.**



This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

**Warning**—This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instructions manual, may cause interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference in which case the user at his own expense will be required to take whatever measures may be required to correct the interference.

The shielded interface cable recommended in this manual must be used with this equipment in order to comply with the limits for a computing device pursuant to Subpart J of Part 15 of FCC Rules.

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## Features

The SSC-D7 is a monochrome video camera which uses a CCD (Charge Coupled Device), a solid state image sensor.

### High-resolution picture

768 × 493 picture elements give a high-resolution picture.

### DC IN 11-16 V 3.3 W connector

Through a CCMC cable, power is supplied to the camera and video output signals are transmitted from the camera to the camera adaptor.

### AC line lock

When the power is supplied from the AC power line using a step-down transformer, the vertical synchronizing frequency can be synchronized to the frequency of the AC power source.

### Electronic shutter with various shutter speeds

This camera has an electronic shutter. The shutter speed can be selected from 10 speeds: 1/60 sec, 1/125 sec, 1/250 sec, 1/500 sec, 1/1000 sec, 1/2000 sec, 1/4000 sec, 1/10000 sec, FL100 (1/100 sec) and FL120 (1/120 sec).

### Camera number display

The characters which represent the camera number (4 digits) can be displayed in black or white on the lower right of the screen.

### Very few after-images, high resistance to image burning and precise image geometry

Very few after-image—A clear picture can be obtained when shooting a rapidly moving object or shooting in a place where illumination is very low.

High resistance to image burning—It is possible to shoot a bright object and to hold the camera on it for a long time. Precise image geometry can be obtained.

### High sensitivity

Makes it possible to detect images in a dark place.

### Shooting in a strong magnetic field

This camera can obtain a stable picture even near an electric furnace or welding machine.

### Compact and lightweight

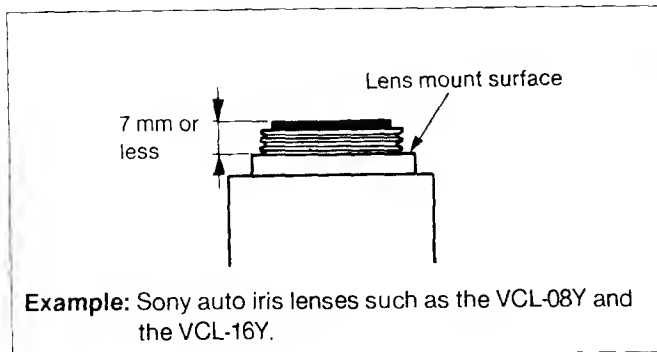
Allows the camera to be installed on a wall or ceiling with a mounting bracket.

### High resistance to vibration and mechanical shock

Makes it possible to take a picture while the camera is moving.

## Applicable Lens

Any C mount lens with a projection of 7 mm or less from the lens mount.



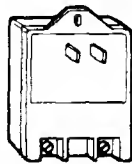
If you wish to use a lens other than these, consult your authorized Sony dealer.

## Applicable Camera Adaptor

Sony camera adaptor CMA-D7

## Applicable Step-down Transformer

Basler Electric BE114820CAA transformer which meets the UL standard, class 2 requirements.



## Precautions

### Safety

This camera is designed for operation on 11 - 16 V DC (12 V DC Typical) supplied through the  $\overline{\text{DC}}$  IN 11-16 V 3.3 W connector or on 24 V AC supplied through the  $\sim$ AC 24 V IN terminals. For supplied power, use the camera adaptor or step-down transformer recommended for this camera.

### Installation

- Allow adequate air circulation to prevent internal heat build-up.
- Do not install the unit near heat sources such as radiators or air ducts or in a place subject to direct sunlight.

### Operation

- Avoid rough handling or mechanical shock.
- Operate the camera at a temperature ranging from 0°C to + 40°C (32°F to 104°F).

### Cleaning

Clean the cabinet, panel and controls with a dry soft cloth, or soft cloth lightly moistened with a mild detergent solution. Do not use any type of solvent, such as alcohol or benzene, which might damage the finish.

### Repacking

Do not discard the carton. It affords maximum protection when the camera is transported. Repack the camera as it was originally packed at the factory.

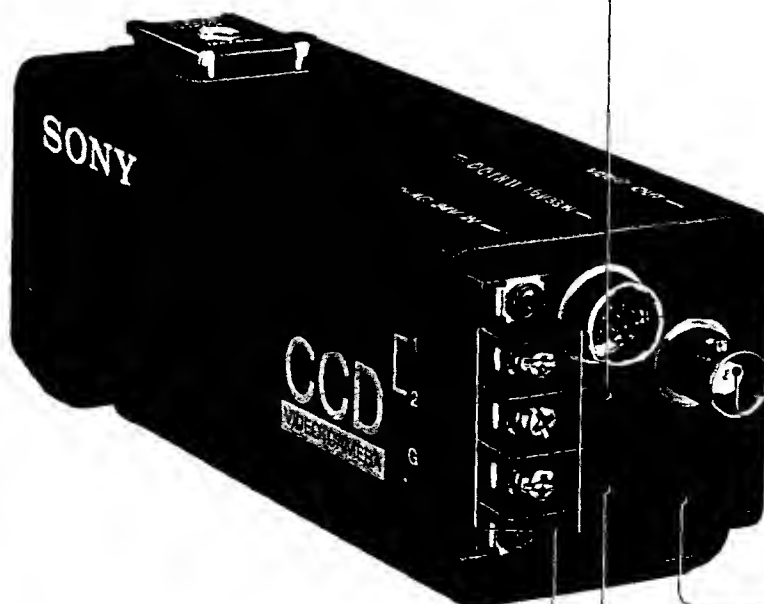
If you have any questions about this camera, consult your authorized Sony dealer.



**Lens mount (C mount)**  
(See pages 5 and 13.)

**Screw holes for camera mounting**  
(U 1/4"-20 UNC) (See page 14.)

**Groove for the lens cord**  
(See page 13.)



**H (horizontal) PHASE control screw**

Adjusts the H phase difference between the genlock input and video output signals when two or more cameras are used. Remove the cap and turn the screw using a screwdriver, while checking the result on an oscilloscope or other equipment. (If the signal of this unit is synchronized with the external sync signal but the connected video monitor is in the internal sync mode, a blank vertical line—horizontal blanking signal—may appears on the screen.)

**DC IN (input) 11 - 16 V 3.3 W connector**  
(12-pin) (See pages 16 and 17.)

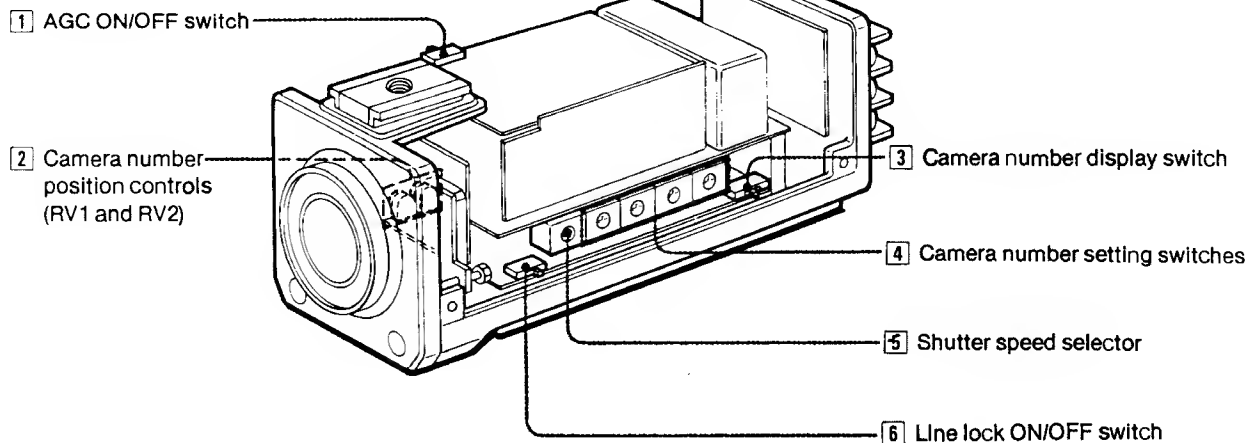
**VIDEO OUT (output) connector**  
(BNC type) (See page 15.)

**LENS connector (4-pin)** (See page 13.)

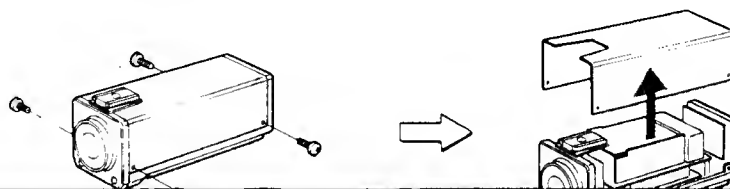
**~AC 24 V IN terminals** (See page 15.)

**Power switch** (See page 15.)

# Switch Settings



How to  
disassemble  
the cover



## 1 AGC (automatic gain control) ON/OFF switch

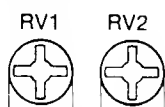
Set to ON to have the camera automatically control the gain of the video signal according to the brightness of the subject.



Factory setting: ON

## 2 Camera number position controls (RV1 and RV2)

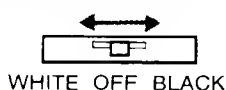
When the camera number is displayed on the screen with the camera number display switch 3, the position of the display can be adjusted with these screws.



RV1: Move the characters up or down

RV2: Move the characters right or left

## 3 Camera number display switch



WHITE OFF BLACK

**WHITE:** Displays the camera number in white. Select this position when the subject being shot is dark.

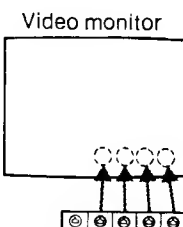
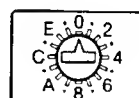
**OFF:** Does not display the camera number.

**BLACK:** Displays the camera number in black. Select this position when the subject being shot is bright.

Factory setting: OFF

## 4 Camera number setting switches

Select the four characters for the camera number when the camera number display switch is set to WHITE or BLACK.



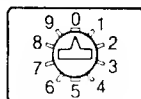
Switch setting	Displayed character	Switch setting	Displayed character
0	0	A	:
9	9	B	P
		C	C
		D	H
		E	A
		F	Blank

Factory setting: 0000

## Switch Settings

### 5 Shutter speed selector

When shooting a fast-moving subject select the appropriate shutter speed with the selector.



Selector setting	Speed (sec)	Selector setting	Speed (sec)
0	1/60	5	1/2000
1	1/125	6	1/4000
2	1/250	7	1/10000
3	1/500	8	FL120*
4	1/1000	9	FL100*

Factory setting: 0

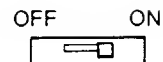
\*FL: flickerless

When shooting under the light of a discharge tube, such as a fluorescent lamp, sodium lamp, or mercury lamp, the picture may flicker. To avoid a flickering image, set the shutter speed according to the frequency of the local power source.

FL100 (1/100 sec): for 50 Hz

FL120 (1/120 sec): for 60 Hz

### 6 Line lock ON/OFF switch

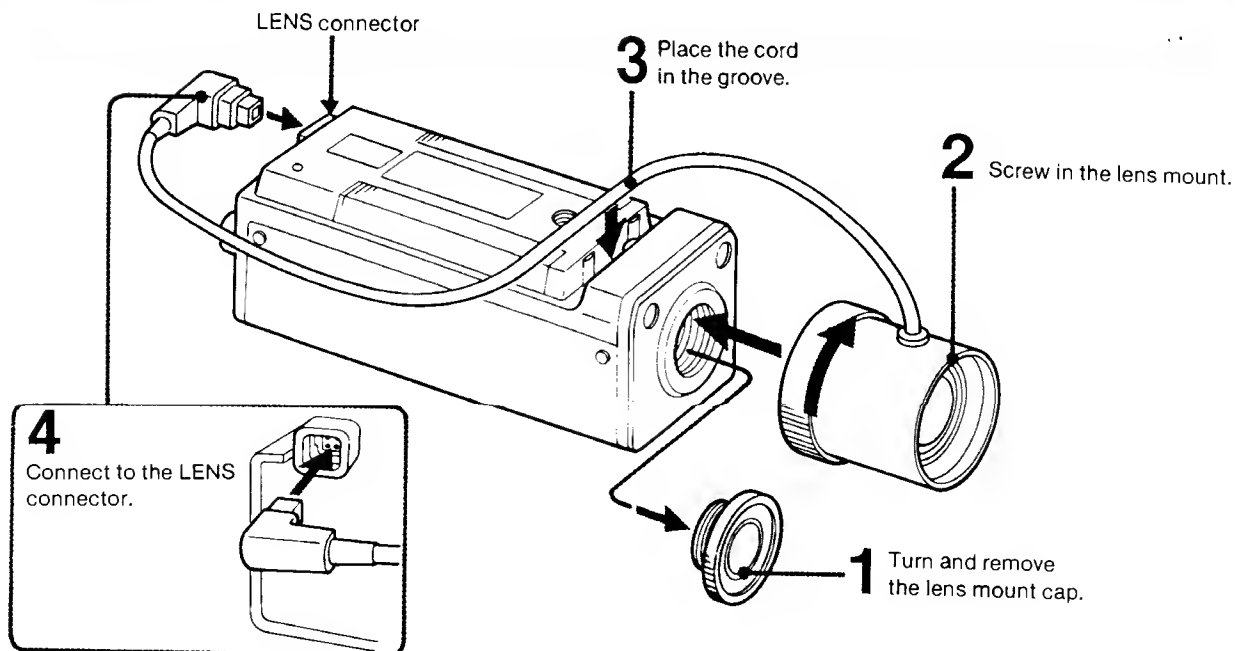


Set to ON when the power is supplied to the camera through the ~AC 24 V IN terminals using the step-down transformer. In this case, the vertical synchronizing signal of the camera is synchronized with the frequency of the power source.

Factory setting: ON

## Installation

### Lens Installation



# Installation

## Camera Installation

Attaching the camera to a support or to a mounting bracket makes the camera possible to be installed on a wall or ceiling.

Be sure to use the screw specified below.

U $\frac{1}{4}$ "-20 UNC

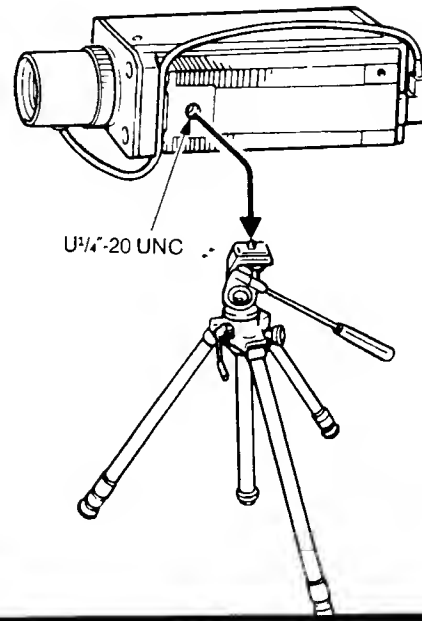
ISO standard 4.5 mm  $\pm$ 0.2 mm

ASA standard 0.197 inches



For details on the camera installation, consult your authorized Sony dealer.

## Attaching the camera to a tripod



# Connections

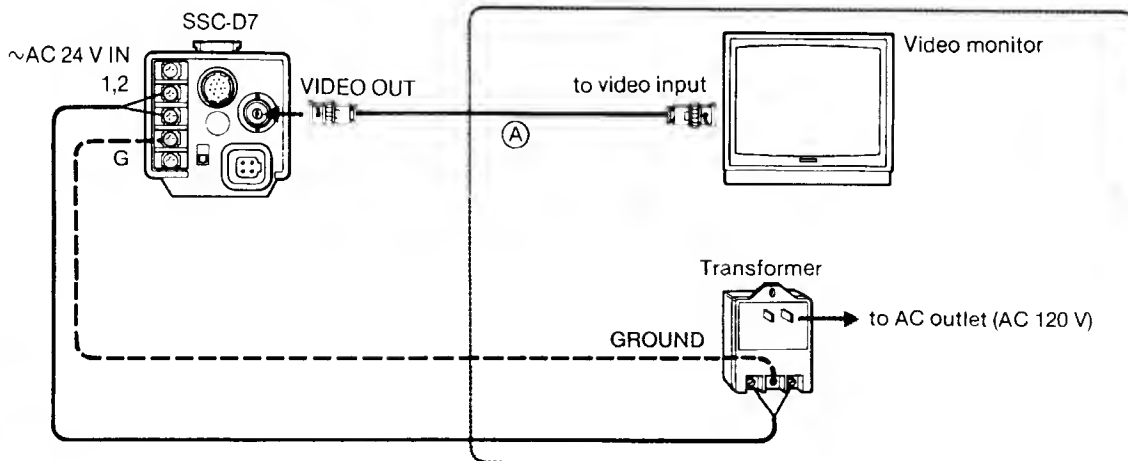
## Supplying the Power Using the $\sim$ AC 24 V IN Terminals

There are two ways to supply power to the camera:

- Inputting power to the  $\sim$ AC 24 V IN terminals through a step-down transformer. (See illustration below.)
- Inputting power to the DC IN 11-16 V 3.3 W connector through the CMA-D7 camera adaptor. (See the following pages.)

### Switch settings

- Power switch: Before making connections, be sure to set the power switch to OFF.
- Line lock ON/OFF switch: To synchronize the sync signal of the camera to the frequency of the AC power line, set this switch to ON.



### Note

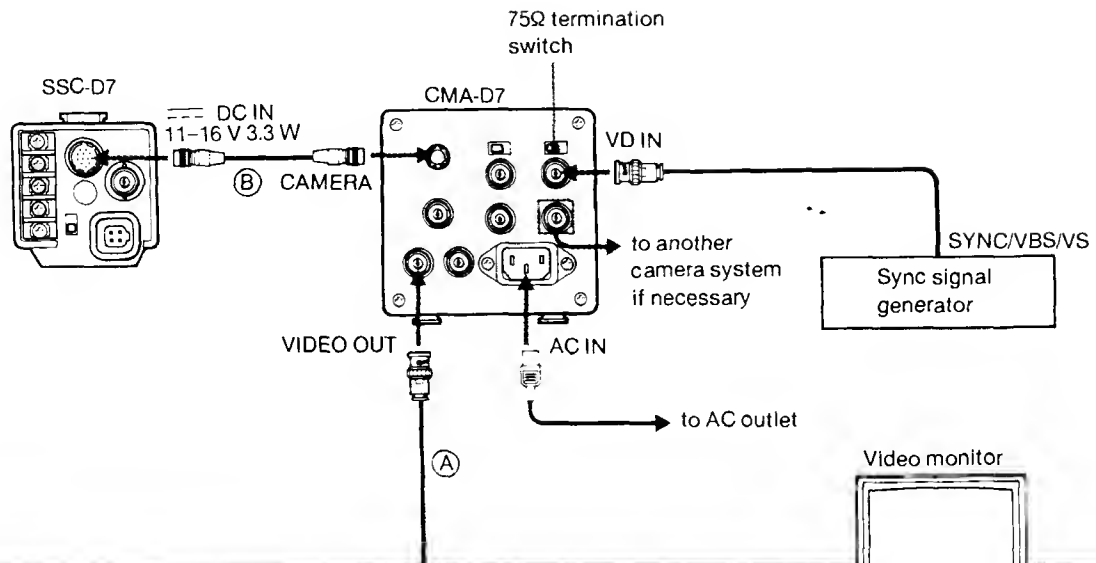
The metal case of this camera is conductively connected to the camera's power line (hot chassis). To avoid electrical shock hazard, be sure to use a Basler electric BE114820CAA separate power transformer.

(A): 75-ohm coaxial cable

## Supplying the VBS, VS or SYNC Signals

### Switch setting

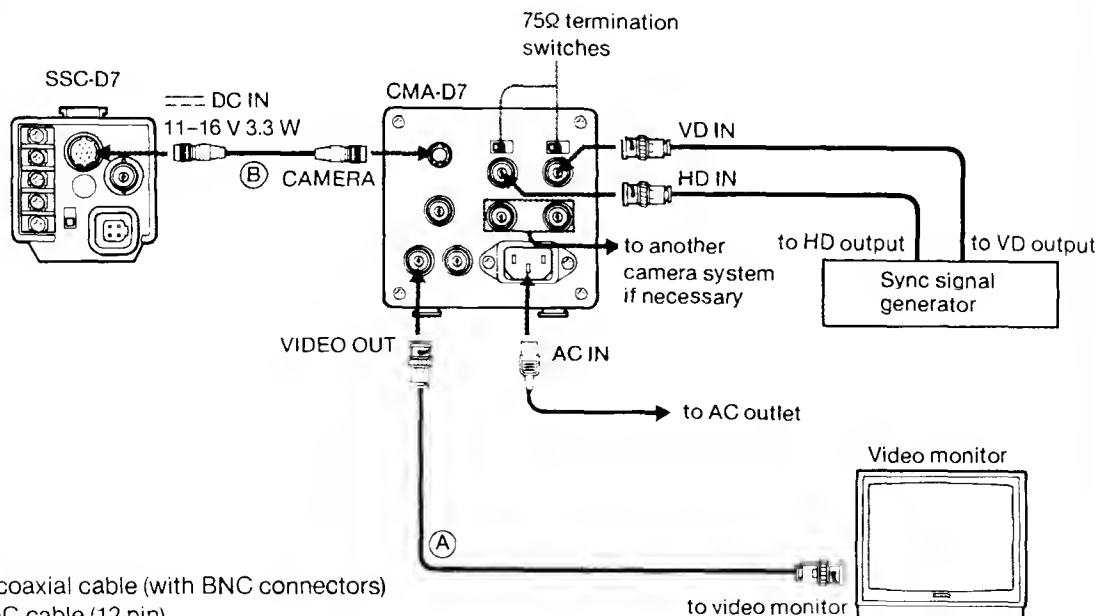
The VD IN and OUT connectors have a loop-through configuration. To use the loop-through output signal, set the 75 $\Omega$  termination switch to OFF. When not using the loop-through output, set the switch to ON.



## Supplying the HD/VD Signals

### Switch settings

The VD IN and OUT connectors, and the HD IN and OUT connectors have a loop-through configuration. To use the loop-through output VD and HD signals, set the 75 $\Omega$  termination switches to OFF. When not using the loop-through outputs, set the switches to ON.



- (A) : 75 $\Omega$  coaxial cable (with BNC connectors)
- (B) : CCMC cable (12-pin)

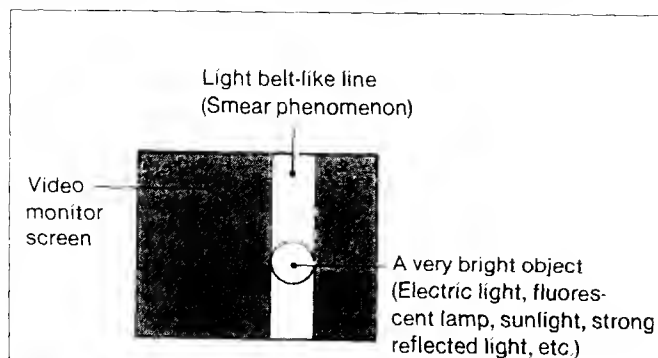


## Special Characteristics of a CCD

## Specifications

### Smear phenomenon

This may appear when a very bright object is shot.



### Patterned noise

This may appear uniformly over the entire monitor screen when the camera is operated at a high temperature.

### Wavy picture

This may appear when fine stripes, straight lines, etc., are shot.

The image monitored on the screen may appear wavy.

Pickup device Interline-transfer CCD

Picture elements

768 × 493 (h×v)

Sensing area 8.8 mm × 6.6 mm (equivalent to a 2/3-inch pickup tube)

### Optical and others

Lens mount C mount

Signal system EIA standard

Scanning system

525 lines, 2:1 interlace, 30 frames/sec.

Sync system Internal/external automatically switched

Horizontal resolution

570 TV lines

Minimum illumination

3 lux with F1.4, with an infrared cut filter

Sensitivity 400 lux with F4 (0 dB, γ on)

Video output 1 Vp-p, sync negative, 75 ohms

Video signal-to-noise-ratio

50 dB (0 dB, γ off)


Electronic shutter


10 speeds selectable : 1/60 sec, 1/125 sec, 1/250 sec, 1/500 sec, 1/1000 sec, 1/2000 sec, 1/4000 sec, 1/10000 sec, FL100 (1/100 sec) and FL120 (1/120 sec)

Camera number superimpose

4 characters

Power requirements

11 – 16 V DC (12 V DC Typical) supplied through the  DC IN 11–16 V 3.3 W connector

24 V AC supplied through the  AC 24 V IN terminals

Power consumption

11 – 16 V DC: 3.3 W

24 V AC: 3.8 W

Operating temperature

0°C to 40°C (32°F to 104°F)

Storage temperature

–25°C to +60°C (–13°F to +140°F)

Operating humidity

Less than 70%

Storage humidity

Less than 90%

Shock resistance

70G

Dimensions

Approx. 50 × 50 × 126 mm (w/h/d)  
(2 × 2 × 5 inches)

excluding projecting parts

Weight

Approx. 330 g (12 oz)

Supplied accessories

Lens mount cap (1)

Operation manual (1)

Optional accessories

CMA-D7 camera adaptor

CCMC-12P02 cable (2 m)

CCMC-12P05 cable (5 m)

CCMC-12P10 cable (10 m)

CCMC-12P25 cable (25 m)

VCL-16Y auto iris lens (16 mm, F1.4)

VCL-08Y auto iris lens (8 mm, F1.4)

Design and specifications are subject to change without notice.